

3217

TITLE: OIL-IN-WATER EMULSIONS AND A METHOD OF
PRODUCING

TECHNICAL FIELD OF INVENTION

5 This is a continuation in part of US Patent 6,933,263 entitled “Emulsified
Based Lubricants” filed 5/23/02.

The invention relates to a water in oil composition. These water in oil
emulsions are useful as of for lubricants, waxes, greases, coatings corrosion protection,
oxidation protection, water protection and the like.

BACKGROUND OF INVENTION

Lubricating compositions are used to reduce friction between surfaces which
are moving with respect to each other. The lubricant reduces the amount of intimate
contact between the moving surfaces. The lubricant prevents contact between the
moving surfaces thus preventing harmful wear to the surfaces. The lubricant generally
15 lowers the coefficient of friction. To be effective, the lubricant, in particular a grease,
needs sufficient anti-wear, anti-weld and extreme pressure properties to prevent metal
to metal contact under high load conditions.

Generally, most lubricants have been based on petroleum oil, although
synthetic based oil lubricants, have been used for special applications. Grease
20 compositions contain an oil of lubricating viscosity and a thickening agent. Greases
usually include various types of thickeners. Thickeners include simple metal soaps,
complex metal salt soap and non-soap thickeners, like clays. Greases are typically
made by thickening an oil with a thickener and the addition of additives for
performance benefits.

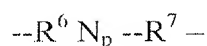
25 Coating compositions are useful to apply as a film or thin layer to a substrate,
which may or may not be in contact with the substrate. Generally, coatings are
efficient barriers to molecules from the environment. Coatings are needed to protect
the substrate as a barrier to environmental elements, for corrosion protection, oxidation
protection, water protection and the like.

30 Frequently lubricating oils, greases and coatings come into contact with the
environment through leakage, excretion of old lubricants during reapplication, general

(viii) an etheramine used to make the composition of this invention can be represented by the formula



wherein each n is a number from 0 to 50; each R is selected from the group
 5 consisting of hydrogen, hydrocarbyl groups of 1 to 16 carbon atoms, and mixtures thereof; each R^{sup.1} is selected from the group consisting of a hydrocarbylene group containing 2 to 18 carbon atoms and a group represented by the formula



wherein both R⁶ and R⁷ are hydrocarbylene groups of 3 to 10 carbon atoms and p is
 10 a number from 1 to 4; and each R² is a hydrocarbyl group having a valence of y where y is a number from 1 to 3, and containing 1 to 50 carbon atoms when y is 1 and 1 to 18 carbon atoms when y is 2 or 3; provided that when n is zero, y is 1;

(ix) a phospholipid, any lipid containing a phosphoric acid, such as lecithin or cephalin; or

15 (x) An amine represented by the formula:



where R = a poly(isobutenyl) group of molecular weight between 350 and 3000.

(xi) the combination of any other above listed emulsifiers.

The oil-soluble product (i) of the emulsifier may be at least one oil-soluble
 20 product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent with ammonia or an amine including but not limited to alkanol amines, hydroxy amines, and the like, the hydrocarbyl substituent of said acylating agent having about 50 to about 500 carbon atoms, and is described in greater detail in US Patent 6,419,714, An Emulsifier For An Aqueous Hydrocarbon Fuel, incorporated by
 25 reference herein.